

REMARKS

This application has been reviewed in light of the Office Action dated July 27, 2004. Claims 10-14 are presented for examination. Claims 8 and 9 have been canceled, without prejudice or disclaimer of subject matter. Claims 10-14 have been added to provide Applicants with a more complete scope of protection. Claim 10 is in independent form. Favorable reconsideration is requested.

Support for new Claims 10-14 may be found, for example, in the specification at page 12, line 7, to page 14, line 4, and page 18, line 25, to page 19, line 18. In this context, the gate voltage setting means corresponds, for example, to elements 114, 115, and 116, and the first and second MOS transistors correspond to elements 102 and 107, respectively. Claim 14 is directed, for example, to the embodiment of Fig. 13 where an adjustment circuit 117 is arranged on an image pickup element chip 110. Of course, these are merely exemplary embodiments, which in no way limit the scope of the claims.

In the Office Action, Claims 8 and 9 were rejected under 35 U.S.C. § 103(a) as being obvious from purportedly admitted prior art in view of U.S. Patent 3,845,295 (“Williams”). The rejection of these claims has been rendered moot by the cancellation thereof. Nevertheless, Applicants submit the following remarks with respect to new Claims 10-14.

Independent Claim 10 recites, *inter alia*, gate voltage setting means to set the gate voltage respectively of one or the other, or both, of the first and second MOS transistors of each pixel so as to satisfy a condition that the channel voltage of the first MOS transistor is between the depletion voltage of the photoelectric conversion element

and the saturation voltage of the floating diffusion area, irrespective of variance of the threshold voltage value of the second MOS transistor between the pixels.

Generally speaking, Claim 10 recites conditions to be met in setting the gate voltages to achieve satisfactory transfer of charge for each pixel. In particular, Claim 10 recites that the channel voltage of the first MOS transistor acting as transfer means is to fall between the depletion voltage of the photoelectric conversion element and the saturation voltage of the floating diffusion area. Notably, the saturation voltage of the floating diffusion area varies in accordance with the threshold voltage value of the second MOS transistor that is used to reset the floating diffusion area. However, by virtue of the arrangement of Claim 10, the gate voltages are set so that a satisfactory charge transfer occurs for each pixel, irrespective of the variance of the threshold voltage value of the second MOS transistor of each pixel.

Nothing has been found or pointed out in the purportedly admitted prior art or Williams that teaches or suggests a gate voltage setting means having the characteristics recited in Claim 10. Specifically, there is no teaching or suggestion in the combination of the purportedly admitted prior art and Williams, assuming such a combination would even be permissible, of setting a voltage relationship between first and second MOS transistors in the manner claimed.

Accordingly Claim 10 is believed to be patentable over the cited art.

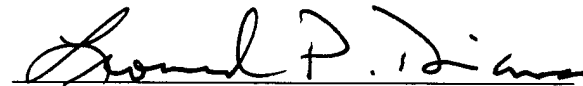
The other claims in this application are each dependent from independent Claim 10 discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention,

however, the individual consideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

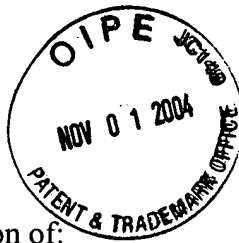
Respectfully submitted,

A handwritten signature in black ink, appearing to read "Leonard P. Diana", is written over a horizontal line.

Leonard P. Diana
Attorney for Applicants
Registration No.: 29,296

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

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In re Application of:

Docket No.: 03500.013389.

TETSUNOBU KOCHI ET AL.

Appln. No.: 09/264,719

Examiner: Dorothy Wu

Filed: March 9, 1999

Group Art Unit: 2615

For: SOLID STATE IMAGE PICKUP APPARATUS

Date: October 27, 2004

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Sir:

Transmitted herewith is an Amendment in the above-identified application.

☐ No additional fee is required.

The fee has been calculated as shown below

CLAIMS AS AMENDED						
	(2) CLAIMS REMAINING AFTER AMENDMENT		(4) HIGHEST NO. PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	RATE	ADDITIONAL FEE
TOTAL CLAIMS	* 8	MINUS	** 20	= 0	x \$9 \$18	\$0.00
INDEP. CLAIMS	* 1	MINUS	*** 3	= 0	x \$44 \$88	\$0.00
Fee for Multiple Dependent claims \$150°/\$300						\$300.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT---						\$300.00

- * If the entry in Column 2 is less than the entry in Column 4, write "0" in Column 5.
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☐ °Verified Statement claiming small entity status is enclosed, if not filed previously.

☒ A check in the amount of \$ 300.00 is enclosed.

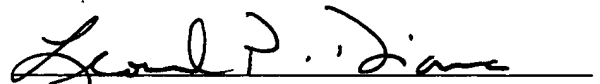
☐ Charge \$ ____ to Deposit Account No. 06-1205. A duplicate copy of this sheet is enclosed.

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☐ A check in the amount of \$ _____ to cover the Extension fee for response with a ____-month extension is enclosed.

☐ A check in the amount of \$ ____ to cover the Information Disclosure Statement fee is enclosed.

☒ Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100 or by facsimile at (212) 218-2200. All correspondence should continue to be directed to our address given below.



Leonard P. Diana
Attorney for Applicants
Reg. No.: 29,296

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10132-3801

NY_MAIN 460964v1